

SUMMARY OF SAFETY AND EFFECTIVENESS
(As required by 21 CFR 807.92)

1. General Information

Classification:	Image Assisted Surgery Device
Common/Usual Name:	Image Assisted Surgery Device Option
Proprietary Name:	Voyager 6.0 Software Option
Establishment Registration:	Marconi Medical Systems, Inc. World Headquarters 595 Miner Road Highland Heights, Ohio 44143 Contact: Elaine K. Keeler, Ph.D Phone: (440) 483-3000
	FDA Owner Number: #1580240 FDA Registration Number: #1525965
Performance Standards:	No applicable performance standards have been issued under section 514 of the Food, Drug and Cosmetic Act.

2. Intended Uses

The Voyager is intended for use as a device which uses diagnostic images of the patient acquired specifically to assist the physician with presurgical planning and to provide orientation and reference information during intra-operative procedures.

The Voyager is indicated for any medical condition in which the use of stereotactic surgery may be considered to be safe and effective, and where a reference to a rigid anatomical structure may be made, such as:

- Intra-cranial surgical procedures involving space occupying lesions or malformations (including soft tissue, vascular and osseous)
- Spinal surgical procedures involving spinal stabilization, neural decompression, or resection of spinal neoplasms.
- ENT procedures.
- Orthopedic surgical procedures.

3. Device Description

The Voyager 6.0 Software Option includes the additional capability of image fusion functionality. This feature allows the user to combine two image data sets in order to view

them simultaneously for comparison and navigation. It also includes tools that can be sterilized with steam sterilization methods, a breakout box to aid in tool connections, a liquid-crystal display mounted to the cart, an improved graphical interface and pre-defined plans and guides to assist the operator throughout a procedure.

4. Safety and Effectiveness

The Voyager system with 6.0 software is substantially equivalent to the ViewPoint system operating with 5.0 software as described in the 510(k) submissions K991256, K990860 and K990868. The following chart has been compiled to demonstrate this substantial equivalency.

Substantial Equivalence Chart

Parameter	Voyager 6.0 Software Option	Predicate- ViewPoint 5.0 Software (K991256, K990860, K990868)
Tools and Accessories	Same.	Probe with various length tips, drill guide, tracking devices, and phantoms. Capabilities to track a surgical microscope or rigid endoscope. Each trackable tool has a minimum of four IREDs or reflective spheres.
Tool Sterilization	Steam sterilization.	ETO or Sterrad sterilization.
Average Tool Accuracy	Same.	2.0 - 5.0 mm
Type of Detector/Position Sensor Assembly (PSA)	Same.	Two types of detector available. 1) Infrared signals emitted from diodes on a tool are detected by a PSA with two optical detectors. 2) Infrared signals emitted from the PSA are reflected off of reflective markers mounted on the tool. The reflected signal is detected by the two optical detectors in PSA. The assembly is either on a mobile pedestal, mounted to the OR table or mounted to the ceiling.
Active Digitizer Volume	Same.	Silo shape comprised of 0.5m radius hemisphere and a cylinder with 0.5m radius and 0.5m length. Detector Positioning Feature aids in finding center of active digitizer volume.
Registration Technique	Same.	Scanned Fiducials and Anatomical Fiducials.

Parameter	Voyager 6.0 Software Option	Predicate- ViewPoint 5.0 Software (K991256, K990860, K990868)
Software Structure	Same.	UNIX environment with processes for importing data from the imaging devices, displaying data on the LCD based on data received by the digitizer subsystem, communicating with the foot pedal and understanding breakdowns in communications or hardware.
Graphical User Interface	Graphical User Interface restructured. Includes plans and guides to assist operator in procedures.	Uses a Graphical User Interface to facilitate interaction with user.
Image Manipulation Capabilities	Includes additional image fusion capability.	MPR and surface rendering.
Other Software Features	Same.	Detector Positioning Feature and video input from endoscope.
Intended Use	Same.	The ViewPoint is intended for use as a device which uses diagnostic images of the patient acquired specifically to assist the physician with presurgical planning and to provide orientation and reference information during intra-operative procedures.
Indications for Use	Same.	<p>The ViewPoint is indicated for any medical condition in which the use of stereotactic surgery may be considered to be safe and effective, and where a reference to a rigid anatomical structure may be made, such as:</p> <ul style="list-style-type: none"> • Intra-cranial surgical procedures involving space occupying lesions or malformations (including soft tissue, vascular and osseous) • Spinal surgical procedures involving spinal stabilization, neural decompression, or resection of spinal neoplasms. • ENT procedures. • Orthopedic surgical procedures.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

FEB 15 2000

Food and Drug Administration
9200 Corporate Boulevard
Rockville MD 20850

Elaine K. Keeler, Ph.D.
Manager, Clinical Science
Marconi Medical Systems, Inc.
595 Miner Road
Cleveland, Ohio 44143

Re: K000310
Trade Name: Voyager 6.0 Software Option
Regulatory Class: II
Product Code: HAW
Dated: January 28, 2000
Received: February 1, 2000

Dear Dr. Keeler:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

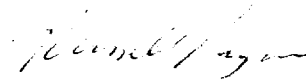
If your device is classified (see above) into either class II (Special Controls) or class III (Premarket Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895.

A substantially equivalent determination assumes compliance with the current Good Manufacturing Practice requirement, as set forth in the Quality System Regulation (QS) for Medical Devices: General regulation (21 CFR Part 820) and that, through periodic (QS) inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4595. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its internet address "<http://www.fda.gov/cdrh/dsmamain.html>".

Sincerely yours,



for James E. Dillard III
Acting Director
Division of General and
Restorative Devices
Office of Device Evaluation
Center for Devices and
Radiological Health

Enclosure

510(k) Number (if known): K000310

Device Name: Voyager 6.0 Software Option

Indications for Use:


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- Spinal surgical procedures involving spinal stabilization, neural decompression, or resection of spinal neoplasms.
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(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)


(Division Sign-Off)
Division of General Restorative Devices
510(k) Number K000310

Prescription Use X
(Per 21 CFR 801.109)

OR

Over-The-Counter Use _____
(Optional Format 1-2-96)